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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,250	01/27/2004	Herbert Bachler	35461US1	9563

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PEARNE & GORDON LLP
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CLEVELAND, OH 44114-3108

EXAMINER

ENSEY, BRIAN

ART UNIT	PAPER NUMBER
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2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/765,250

Applicant(s)

BACHLER ET AL.

Examiner

Brian Ensey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-28 and 31 is/are rejected.
- 7) ☒ Claim(s) 16, 29, 30, 32, 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/27/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Inventorship

In view of the papers filed August 19, 2004, it has been found that this nonprovisional application, as filed, through error and without deceptive intent, improperly set forth the inventorship, and accordingly, this application has been corrected in compliance with 37 CFR 1.48(a). The inventorship of this application has been changed by the addition of Hans-Ueli Roeck and Christoph Widmer.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of Office records to reflect the inventorship as corrected.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 8 describes "the step of eliminating noise signals generated by the logging process with the aid of a filter." There is no teaching of the use of a filter for noise reduction of the logging process contained in the specification or drawings.

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Claims 9 and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 9 describes “the logging of data is carried out in data packets, a repeat rate for the recording of the data packets not exceeding a predefined repeat rate.” There is no disclosure of the use of “data packets” for logging data in the specification or drawings. Claim 10 depends from previously rejected claim 9 and is therefore further rejected as being nonenabling.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 18, the multiple use of “and/or” phrases renders the claim indefinite because it is unclear which of the limitation(s) following the phrase are part of the claimed invention. The multiple use of the “and/or” phrase provide numerous variations in the claim and imparts great difficulty on the examiner to determine a single inventive concept. The examiner will provide an examination of the claims based on the best possible interpretation of the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Based on the best interpretation of the claims as written, Claims 1-6, 11-15, 18-21 and 23-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Troelsen et al. U.S. Patent Application Publication 2002/0071582.

Regarding claim 1, Troelsen discloses a method for recording information in a hearing device, the method comprising the steps of programming a point in time of the data to be logged, the data being any parameter of the hearing device (See Fig. 1 and paragraphs 0016-0019). The appropriate gain scaling information is continuously calculated by the processor based on running average signal levels from the microphones and recorded at regular time intervals into the memory of the hearing device.

Regarding claim 2, Troelsen further discloses the point in time for starting the data logging is triggered or changed either manually or event-driven (See paragraphs 0016 and 0017). A set of data is stored and each time a new data set is verified valid, the new data set is written therefore verification of a valid data set is the event to trigger recording a new data set.

Regarding claim 3, Troelsen further discloses the steps of processing the data before the logging and logging the processed data only (See paragraphs 0016 and 0017). Input signals from the microphones are processed and corrected gain scaling factors are applied and then stored in memory.

Regarding claim 4, Troelsen further discloses the data is arranged in one or several of the following categories: Hardware data, including sound variation data, system behavior data and hearing device user interaction data; Customer-specific data; Data related to the fitting history of a hearing device; Operating data or current adjustments or time signals; Statistical data (See paragraph 0016).

Regarding claim 5, Troelsen further discloses the step of using identical or similar adjustments corrected once or several times in certain acoustic situations as new standard adjustments (See paragraph 0017). The data is updated and the new data is continuously selected as the new adjustment.

Regarding claim 6, Troelsen further one or several of the following adjustment possibilities are used based on the logged data: in case of a new adjustment in the hearing device, the desired adjustment comes into full effect after a preset time, the hearing device user being able to have influence on adjustment procedure; the available hearing programs or parameters or operating adjustments, respectively, are rearranged; a used classifier undergoes a fine tuning, sensitivity and time delay being particularly adjusted; selectable hearing programs or parameters or operating adjustments are selected or activated, respectively (See paragraphs 0024 and 0054).

Regarding claim 11, Troelsen further discloses the data is logged in at least one of two sectors in the memory unit (See paragraphs 0026 and 0027).

Regarding claim 12, Troelsen further discloses the data is logged in at least one of three sectors (RAM, ROM EEPROM), data being logged in a first sector is neither deleted nor appended (ROM), data being logged in a second sector is not deleted, new data being logged in the second sector being appended (RAM), and data having been logged in a third sector is

deleted (EEPROM) (See Fig. 1 and paragraphs 0052, 0055-0060).

Regarding claim 13, Troelsen further discloses the data is logged in at least one of three sectors (RAM,ROM, EEPROM), data being logged in a first sector is neither deleted and nor appended (ROM), data being logged in a second sector is saved in a circular buffer in which new data being logged at a location of the oldest information stored in the circular buffer (RAM), and data having been logged in a third sector is deleted (EEPROM) (See Fig. 1 and paragraphs 0052, 0055-0060).

Regarding claim 14, Troelsen further discloses a date and/or time unit is provided in the hearing device which date and/or time unit is synchronized with an external synchronization unit (See paragraph 0052). A Pc is connected to the device for a bi-directional data bus transfer which inherently has a time/date unit and requires synchronization for data transfer.

Regarding claim 15, Troelsen further discloses one or a combination of the following equipment is used as synchronization unit: remote control; computer (16); mobile telephone; PDA; atomic clock (See Fig. 1).

Regarding claim 18, Troelsen discloses a hearing device (1) comprising a signal processing unit (6), a control unit (7), a memory unit (8-11 and 14), at least one microphone (2), a loudspeaker unit (13), the at least one microphone and the loudspeaker unit being operationally connected to the signal processing unit which on its part being operationally connected to the memory unit over the control unit, wherein a point in time for the data to be logged is freely programmable (See Fig. 1 and paragraphs 0016-0019 and 0024). The appropriate gain scaling information is continuously calculated by the processor based on running average signal levels from the microphones and recorded at regular time intervals into the memory of the hearing

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device. Further data sets may comprise may comprise parameter values from multiple input signal and may be triggered (adjusted) by user interface events.

Regarding claim 19, Troelsen further discloses the data is savable in the memory unit (8,11,14) (See Fig. 1).

Regarding claims 20 and 21, Troelsen further discloses the point in time for the starting the data logging is triggered or changed either manually or event-driven (See paragraphs 0016 and 0017). A set of data is stored and each time a new data set is verified valid, the new data set is written therefore verification of a valid data set is the event to trigger recording a new data set.

Regarding claim 23, Troelsen further discloses the data is logged in at least one of two sectors in the memory unit (See paragraphs 0026 and 0027).

Regarding claim 24, Troelsen further discloses the data is logged in at least one of three sectors (RAM, ROM EEPROM), data being logged in a first sector is neither deleted nor appended (ROM), data being logged in a second sector is not deleted, new data being logged in the second sector being appended (RAM), and data having been logged in a third sector is deleted (EEPROM) (See Fig. 1 and paragraphs 0052, 0055-0060).

Regarding claim 25, Troelsen further discloses the data is logged in at least one of three sectors (RAM,ROM, EEPROM), data being logged in a first sector is neither deleted and nor appended (ROM), data being logged in a second sector is saved in a circular buffer in which new data being logged at a location of the oldest information stored in the circular buffer (RAM), and data having been logged in a third sector is deleted (EEPROM) (See Fig. 1 and paragraphs 0052, 0055-0060).

Regarding claim 26, Troelsen further discloses the data is arranged in one or several of

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the following categories: Hardware data, including sound variation data, system behavior data and hearing device user interaction data; Customer-specific data; Data related to the fitting history of a hearing device; Operating data or current adjustments or time signals; Statistical data (See paragraph 0016).

Regarding claim 27, Troelsen further discloses a date and/or time unit is provided in the hearing device which date and/or time unit is synchronized with an external synchronization unit (See paragraph 0052). A Pc is connected to the device for a bi-directional data bus transfer which inherently has a time/date unit and requires synchronization for data transfer.

Regarding claim 28, Troelsen further discloses one or a combination of the following equipment is used as synchronization unit: remote control; computer (16); mobile telephone; PDA; atomic clock (See Fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Troelsen in view of Mangold et al. U.S. Patent No. 4,972,487.

Regarding claim 7, Troelsen discloses a hearing aid as claimed. Troelsen does not expressly disclose a reduction of a supply voltage due to the logging process is compensated

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when the data is logged in a memory unit which is located in the hearing device. However, Mangold teaches a voltage doubler (charge pump) 40 and a buffer capacitor to maintain the device voltage for programming the device (See Mangold col. 4, line 59 through col. 6, line 61). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the voltage doubler of Mangold in the device of Troelsen to maintain system voltage and help prevent data corruption during programming.

Regarding claim 17, Troelsen discloses a hearing aid as claimed. Troelsen does not expressly disclose the steps of logging data in a memory unit which is located in the hearing device, a logging of data being only carried out if one or several of the following conditions are met: a battery unit, supplying energy to the hearing device, has an output voltage that lies above a predefined value; there exist no surround sound to be processed by the hearing device; a mean level of surround noise is higher as a predefined level; the amount of data to be logged is limited to a predefined value, for example to 128 bytes. However, Troelsen teaches the need to prevent a power interruption to prevent data corruption (See paragraph 0017 and 0018). Mangold teaches a voltage doubler (charge pump) 40 and a buffer capacitor to maintain the device voltage for programming the device and therefore only writing data when the battery unit has an output voltage above a predefined value (See Mangold col. 4, line 59 through col. 6, line 61). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the voltage doubler of Mangold in the device of Troelsen to maintain system voltage and help prevent data corruption during programming.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Troelsen in view of Mangold and further in view of Bindner et al. U.S. Patent Application Publication 2003/0138109.

Regarding claim 22, Troelsen discloses a hearing aid as claimed. Troelsen does not expressly disclose data is transferred to an external memory unit which is connected to the hearing device preferably via the internet. However, it is well-known in the art to utilize an external memory unit and Mangold teaches an external memory unit for retaining operating parameters (See Figs. 4 and 5 and col. 4, lines 11-26). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to use an external memory unit with the hearing aid of Troelsen to provide a more advanced programming memory and datalogging while reducing the size and weight of the hearing aid (See Mangold col. 4, lines 21-25). The combination of Troelsen in view of Mangold does not expressly disclose the transfer of data via the Internet. However, the use of data transfer in a hearing aid via the Internet is well known in the art and Bindner teaches embedded Internet for a hearing aid to allow for remote maintenance of a hearing aid (See Bindner paragraphs 0009-0012). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the embedded Internet of Bindner in the hearing aid of the combination of Troelsen in view of Mangold to allow adjustments to the hearing aid regardless of location (See Bindner paragraph 0012).

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Troelsen in view of Leenen et al. U.S. Patent Application Publication 2004/0066944.

Regarding claim 31, Troelsen discloses a hearing aid as claimed. Troelsen does not expressly disclose the hearing device is a binaural hearing device with at least two hearing device parts and

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at least one of the at least two hearing device parts provide datalogging capability. However, the use of binaural hearing devices is well known in the art and Leenen teaches the device of Troelsen combined in a binaural hearing aid system (See paragraph 0017). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the hearing device of Troelsen with the binaural device of Leenen to provide a second separate data space for logging capability (See Leenen paragraphs 0016 and 0017).

Allowable Subject Matter

Claims 16, 29, 30, 32 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
P.O. Box 1450
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Or faxed to:

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(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to:

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Brian Ensey
Examiner
January 31, 2007